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## A List of the Grasses of Pennsylvania.

BY THOS. C. PORTER.

At the request of the Pennsylvania Board of Managers for the World's Fair, the author prepared a suite of all the grasses known to grow beyond culture within the bounds of the State, and these, mounted on card-boards, are now on exhibition in their building at Chicago. But, as no way seems to be open, through the parties who have the matter in charge, for issuing in pamphlet form for distribution a list copied from what is printed on the card-boards, he has deemed it his right to seek a channel in the pages of the BULLETIN for putting on record and making accessible to the public the results of his labors. The list that follows, much enlarged by additional notes, is in fact a new work.

In it, the names of the counties in which the species were collected are given, with the names of the collectors. Wherever the latter are wanting that of the author is to be supposed. All these species thus noted can be verified by specimens in the Pennsylvania Herbarium of Lafayette College, either by a single one, or by several from different stations in the same county.

Besides this, the Flora of Darlington, for Chester county; that of Barton, for Philadelphia, and the Catalogues of Dr. George Smith, for Delaware; of Dr. I. S. Moyer, for Bucks, and of Professors Dudley and Thurston, for Lackawanna and Luzerne, are cited in brackets.

The numbers attached to the species correspond with those on the card-boards of the Chicago exhibit.

1. *PASPALUM SETACEUM*, Mx.—In damp, sandy soils.—Delaware, *Dr. Geo. Smith*; Chester, *Porter*, (Fl. Cestrica); Philadelphia; Lancaster; Dauphin; Lebanon; Bucks, (*Moyer's Cat.*); Northampton.
2. *PASPALUM LÆVE*, Mx.—Same habitat as the preceding.—Delaware *Smith's Cat.*; Chester (Fl. Cestrica); Lancaster; York; Lebanon; Northampton.
3. *PANICUM FILIFORME*, Linn.—Delaware (*Smith's Cat.*); Chester (Fl. Cestrica); Lancaster; Bucks (*Moyer's Cat.*); Crawford, *Garber*.

4. *PANICUM GLABRUM* (Schrad.) Gaud.—Nat. from Eu. Common.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Luzerne (Dudley and Thurston's Cat.); Dauphin; Lycoming, *Heller*; Erie, *Garber*.
5. *PANICUM SANGUINALE*, Linn.—Nat. from Eu. Very common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Franklin; Huntingdon.
6. *PANICUM XANTHOPHYSUM*, Gray.—In the northeastern counties. Rare.—Lycoming, on "dry slate hills," *McMinn*; Luzerne and Lackawanna, *Dudley*.
7. *PANICUM DEPAUPERATUM*, Muhl.—On dry hillsides. Frequent throughout.—Delaware; Chester (Fl. Cestrica); Lancaster; Lebanon, *Small*; Bucks (Moyer's Cat.); Schuylkill; Lycoming, *McMinn*; Tioga, *Garber*; Venango, *Garber*.
8. *PANICUM SCOPARIUM*, Lam.—Not common.—Lancaster; Chester; Northampton, at a few stations.
9. *PANICUM DICHOTOMUM*, Linn.—Common throughout. Exceedingly variable.—Delaware; Chester; Lancaster; Bucks (Moyer's Cat.); Northampton.
12. *PANICUM DICHOTOMUM*, L., var. *BARBULATUM* (Michx.) Vasey.—Chester; Lancaster; Northampton.—Often found with the typical form.
13. *PANICUM RAMULOSUM*, Michx. (?)—In woods. Frequent throughout.—Chester; Lancaster; Northampton; Carbon, *Kraut*; Huntingdon.
14. *PANICUM RAMULOSUM*, Michx. (?), var. *VIRIDE* (Vasey.)—Lancaster; Chester; Northampton.—A delicate grass, entirely glabrous, with slender culms and linear or lance-linear leaves. Growing with the typical form.
15. *PANICUM WALTERI*, Poir. (*P. latifolium* of Am. authors, not of Linnæus.)—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Luzerne (Dudley and Thurston's Cat.); Huntingdon; Bedford; *Small*; Carbon, *Kraut*.
16. *PANICUM WALTERI*, Poir., var. *MOLLE* (Vasey.)—Rare.—Bucks, *H. F. Ruth*; Northampton; Luzerne (Dudley and Thurston's Cat.).

17. *PANICUM COMMUTATUM*, Schultes.—Rare.—Lancaster; Northampton.
18. *PANICUM SPHÆROCARPON*, Ell.—Not common.—Chester; Northampton; Luzerne, *Heller*.
19. *PANICUM UNCIPHYLLUM*, Trin.—Chester, on the serpentine barrens south of Oxford.
20. *PANICUM CLANDESTINUM*, Linn.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Northampton; Lancaster; Franklin; Luzerne (Dudley and Thurston's Cat.).—Frequent throughout.
21. *PANICUM CLANDESTINUM*, L., var. *PEDUNCULATUM*, Torr.—Philadelphia, *Dr. Jos. Leidy*; Lancaster; Chester; Franklin; Huntingdon; Venango, *Garber*.
22. *PANICUM VISCIDUM*, Ell.—Delaware, at Tinicum, *Aubrey H. Smith*.
23. *PANICUM MICROCARPON*, Muhl.—Delaware, *Charles E. Smith*; Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Lancaster; Perry, on the shores of the Susquehanna.
24. *PANICUM CAPILLARE*, Linn.—Common throughout.—Delaware (Smith's Cat.); Chester; Bucks; Lancaster; Northampton; Huntingdon.
25. *PANICUM CAPILLARE*, L., var. *FLEXILE*, Gattinger.—Very rare.—Lancaster, in a swamp near Dillerville. The only known station in the State.
26. *PANICUM PROLIFERUM*, Lam.—Not uncommon.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Lancaster; Dauphin; Northampton.
27. *PANICUM MILIACEUM*, Linn.—Fug. from Eu.—Dauphin; Lancaster; Luzerne, *Small* and *Heller*.
28. *PANICUM VERRUCOSUM*, Muhl.—Very rare.—Delaware, at Tinicum, the only station known in the State.
29. *PANICUM ANCEPS*, Michx.—Not common.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Lancaster; Lebanon, *Small*; Bucks, *Diffenbaugh*; Lehigh; Northampton.
30. *PANICUM AGROSTOIDES*, Muhl.—Common in wet places.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Lancaster; Dauphin; Northampton.
31. *PANICUM VIRGATUM*, Linn.—On rocky shores. Throughout

- the State.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Luzerne, *Heller*; Dauphin; Huntingdon, *Lowrie*; Erie, *Clinton*, *Garber*.
32. PANICUM CRUS-GALLI, Linn.—Nat. from Eu. Common.—Delaware (Smith's Cat.); Chester; Bucks (Moyer's Cat.); Lancaster; Franklin; Northampton.
33. PANICUM AMARUM, Ell., var. MINOR, Vasey & Scribner.—Philadelphia, *Diffenbaugh*. A plant of the coast of New Jersey, introduced and spreading from ballast-heaps.
34. CHAMÆRAPHIS VERTICILLATA (L.). (*Setaria verticillata*, Beauv.).—Adv. from Eu. Not common.—Bucks (Moyer's Cat.); Northampton; Lancaster.
35. CHAMÆRAPHIS GLAUCA (L.) Kuntze. (*Setaria glauca*, Beauv.).—Nat. from Eu. Common throughout.—Delaware (Smith's Cat.); Chester; Philadelphia (Barton's Flora); Bucks (Moyer's Cat.); Lancaster; Huntingdon, *Lowrie*; Northampton.
36. CHAMÆRAPHIS VIRIDIS (L.). (*Setaria viridis*, Beauv.).—Nat. from Eu. Very common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Franklin; Lancaster.
37. CHAMÆRAPHIS ITALICA (L.) Kuntze. (*Setaria Italica*, Kunth).—Adv. from Eu. Escaped from culture.—Chester (Fl. Cestrica); Northampton; Luzerne (Dudley and Thurston's Cat); Lycoming, *Small and Heller*.
38. CENCHRUS TRIBULOIDES, Linn.—Chester (Fl. Cestrica); Delaware (Smith's Cat.); Bucks, (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Dauphin; Lancaster; Northampton.—Sandy river banks and fields.
39. SPARTINA CYNOSUROIDES (Linn.) Willd.—Not common. Rocky shores of the large rivers.—Chester (Fl. Cestrica); Philadelphia, *E. Diffenbaugh*; Bucks, *H. F. Ruth*; York; Dauphin; Allegheny, *Knipe*; Venango, *Kraut*; Erie, *Garber*.
40. SPARTINA JUNCEA (Michx.) Willd.—A salt-marsh plant, common on the New Jersey coast. Introduced upon ballast-grounds.—Philadelphia, *Diffenbaugh*.
41. TRIPSACUM DACTYLOIDES, Linn.—Rare and local.—Berks, near Reading, *Dr. J. P. Hiester*; Chester, in the Great Valley, (Fl. Cestrica); Lancaster, on the Lower Susquehanna.

42. *ZIZANIA AQUATICA*, Linn.—Swampy margins of rivers.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia; Bucks (Moyer's Cat.); Lancaster, above Shock's Mill.
43. *HOMALOCENCHRUS VIRGINICUS* (Willd.) Britton.—Common in wet places.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Franklin, *Traill Green*; Huntingdon; Luzerne (Dudley and Thurston's Cat.).
44. *HOMALOCENCHRUS ORYZOIDES* (Linn.) Poll.—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Lancaster.
45. *ERIANTHUS ALOPECUROIDES* (Linn.) Ell.—Very rare and local.—Bucks, *Burk*, *I. C. Martindale*.
46. *ANDROPOGON PROVINCIALIS*, Lam., (*A. furcatus*, Muhl.).—Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia (Barton's Flora); Lancaster; Bucks (Moyer's Cat.); Northampton; Luzerne (Dudley and Thurston's Cat.); Huntingdon, *Lowrie*.
47. *ANDROPOGON SCOPARIUS*, Michx.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia (Barton's Fl.); Bucks (Moyer's Cat.); Northampton; Luzerne (Dudley and Thurston's Cat.); Lancaster; Dauphin; Lebanon, *Small*; Centre, *Rothrock*; Blair, *Bæcking*; Erie, *Clinton*.—Common over the whole State.
48. *ANDROPOGON VIRGINICUS*, Linn.—Not frequent.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia (Barton's Fl.); Bucks (Moyer's Cat.); Lancaster; Northampton; Luzerne (Dudley and Thurston's Cat.).
49. *ANDROPOGON GLOMERATUS* (Walt.), B. S. P.—Rare.—Delaware, *Charles E. Smith*; Chester (Fl. Cestrica); Lancaster.
50. *CHRYSOPOGON NUTANS* (Linn.) Benth.—On rocky banks; frequent.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Luzerne (Dudley and Thurston's Cat.); Huntingdon, *Bæcking*.
- 50a. *SORGHUM HALAPENSE* (Linn.) Pers.—Fugitive. Escaped from culture.—Philadelphia, *Burk*.
51. *PHALARIS CANARIENSIS*, Linn.—Fug. from Eu.—Lancaster; Philadelphia, *Charles E. Smith*; Northampton, *Tyler*.

52. PHALARIS ARUNDINACEA, Linn.—In wet places. Common throughout.—Delaware (Smith's Cat.); Philadelphia (Barton's Fl.); Chester (Fl. Cestrica); Lancaster; Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Huntingdon, *Lowrie*.
53. ANTHOXANTHUM ODORATUM, Linn.—Nat. from Eu.—Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia; Bucks (Moyer's Cat.); Berks; Monroe; Blair, *Lowrie*.
54. ALOPECURUS GENICULATUS, Linn.—Fug. from Eu.—Philadelphia, *Diffenbaugh*.—On the ballast heaps.
55. ALOPECURUS GENICULATUS, Linn., var. ARISTULATUS (Michx.), Munro.—Rare and local.—Delaware (Smith's Cat.); Huntingdon; Luzerne, *Thurston*.
56. ARISTIDA DICHOTOMA, Linn.—Common throughout.—Delaware (Smith's Cat.); Chester; Lancaster; Lebanon; Bucks (Moyer's Cat.); Philadelphia (Barton's Fl.); Northampton.
57. ARISTIDA GRACILIS, ELL.—Dry roadsides. Less common than the former.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Franklin.
58. ARISTIDA PURPURASCENS, Poir.—Not common.—Bucks (Moyer's Cat.); Northampton; Lancaster; York.—On sandy riverbanks.
59. STIPA AVENACEA, Linn.—Very rare and local.—Delaware; Chester, *J. J. Carter*; Philadelphia, *Diffenbaugh*.
60. ORYZOPSIS MELANOCARPA, Muhl.—Frequent. In rocky woods.—Bucks (Moyer's Cat.); Philadelphia, *Chas. E. Smith*; Lancaster; Luzerne, *Small* and *Heller*; Huntingdon, *Lowrie*.
61. ORYZOPSIS ASPERIFOLIA, Michx.—Rare.—Monroe; Luzerne Dudley and Thurston's Cat.); Huntingdon; Blair, *Lowrie*; Erie, *Guttenberg*.
62. ORYZOPSIS JUNCEA (Michx.) B. S. P.—Very rare. In the mountain regions.—Monroe, near Naomi Pines; Luzerne, *Rothrock*.
63. MILIUM EFFUSUM, Linn.—Rare. In the northern counties.—Wayne, *Garber*; Sullivan, *Chas. E. Smith*; Mercer, *Garber*.
64. MUHLENBERGIA SOBOLIFERA (Muhl.) Trin.—Frequent throughout. In rocky woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Huntingdon, *Lowrie*.

65. MUHLENBERGIA RACEMOSA (Michx.) B. S. P.—In bogs. Not common.—Chester (Fl. Cestrica); Bucks, *H. F. Ruth*; Lancaster; Monroe; Lycoming, *McMinn*; Crawford, *Garber*.
66. MUHLENBERGIA MEXICANA (Linn.) Trin.—Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Franklin; Huntingdon; Clearfield, *McMinn*.
67. MUHLENBERGIA SYLVATICA (Torr.) T. and G.—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Lancaster; Lebanon, *Small*; Clearfield, *McMinn*.
68. MUHLENBERGIA TENUIFLORA (Willd.) B. S. P.—Not rare. In rocky woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Huntingdon; Blair, *Lowrie*.
69. MUHLENBERGIA DIFFUSA, Schreb.—Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks, (Moyer's Cat.); Northampton; Lancaster; Blair, *Bæcking*; Huntingdon, *Lowrie*.
70. MUHLENBERGIA CAPILLARIS, Kunth.—Very rare.—Lancaster, at Safe Harbor, the only station known in the State (Oct. 8, 1864).
71. BRACHYELYTRUM ARISTOSUM (Michx.) B. S. P.—Common throughout. In rocky woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Lancaster; Northampton.
72. HELEOCHLOA SCHÆNOIDES (Linn.) Host.—Nat. from Eu.—Philadelphia (*Crypsis Virginica* of Barton's Fl., I, p. 45), *James, Burk, Diffenbaugh*; Delaware, *Dr. G. Smith*; Lancaster, at Columbia, *Garber*.
73. PHLEUM PRATENSE, Linn.—Nat. from Eu.—Common throughout.—Lancaster, *Small*; Franklin; Northampton.
74. SPOROBOLUS ASPER (Michx.) Kunth.—Rare. On sandy riverbanks.—Dauphin; Lancaster; Montgomery, *Diffenbaugh*; Northampton.
75. SPOROBOLUS VAGINÆFLORUS (Torr.) Vasey.—Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Lancaster; Northampton; Huntingdon; *Lowrie*.



76. *SPOROBOLUS INDICUS* (L.) R. Br.—From Trop. Am.—Philadelphia, *C. F. Parker*.—Spreading to waste places from the ballast-heaps.
77. *SPOROBOLUS HETEROLEPIS*, Gray.—Very rare and local.—Lancaster, near New Texas, *J. J. Carter*. The only station known.
78. *SPOROBOLUS CRYPTANDRUS* (Torr.) Gray.—Erie, on Presque Isle, *Garber*, (Sept. 1868).
79. *AGROSTIS PERENNANS* (Walt.) Tuck.—Common throughout. In damp woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Dauphin; Lancaster; Centre, *Lowrie*; Huntingdon, *Bæcking*.
80. *AGROSTIS HIEMALIS* (Walt.) B. S. P.—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Monroe; Lancaster.
81. *AGROSTIS CANINA*, Linn.—Rare. In the mountain regions.—Northampton; Dauphin, *Small*; Blair, *Lowrie*.
82. *AGROSTIS ALBA*, Linn.—Nat. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Monroe; Lycoming; Huntingdon, *Lowrie*; Lycoming.
83. *AGROSTIS ALBA*, Linn., var. *VULGARIS* (With.) Thurber.—Frequent throughout. Everywhere with the typical form.—Northampton; Monroe.
84. *CINNA ARUNDINACEA*, Linn.—Delaware (Smith's Cat.) Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Lackawanna (Dudley and Thurston's Cat.); Lancaster; Northampton; Huntingdon; Blair, *Bæcking*.
85. *CINNA PENDULA*, Trin.—Rather frequent on the mountains of the northern counties.—Monroe; Lackawanna; Huntingdon, *Garber*; Blair, *Lowrie*.
86. *CALAMAGROSTIS CANADENSIS* (Michx.) Beauv.—Abundant in the mountain-swamps of the State.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (*H. F. Ruth*); Northampton; Lancaster; Dauphin; Carbon; Monroe; Elk, *McMinn*; Tioga, *Garber*; Venango, *Garber*; Erie, *Garber*.
87. *CALAMAGROSTIS CONFINIS*, Nutt.—Very rare and local.—Lycoming, in a bog near Muncy, *McMinn* (1865).

88. CALAMAGROSTIS NUTTALLIANA, Steud.—Rather frequent in bogs and damp woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks, *H. F. Ruth*; Monroe; Lancaster; Lebanon, *Heller*; Dauphin; Huntingdon.
89. CALAMAGROSTIS PORTERI, Gray.—Local and not common.—Huntingdon. Discovered by the author in dry woods on the hills along the Little Juniata river near Barree Forge, Aug. 12, 1862. Afterwards it was found on Warrior's Ridge, by *J. R. Lowrie*, near Warriorsmark in the same county. It was also reported in Prof. Dudley's Flora as growing in Cayuga Co., N. Y. Specimens of the preceding species which sometimes has the leaves bearded below the junction of the blades with the sheath have been mistaken for it.
90. AMMOPHILA ARENARIA (Linn.) Link.—Erie, *G. W. Clinton*.—A coast-plant collected on Presque Isle, the only station known in the State.
91. AIRA PRÆCOX, Linn.—Adv. from Eu. Northampton, near Bethlehem, *Fiot*—the only known station.
92. AIRA CARYOPHYLLEA, Linn.—Fug. from Eu.—Philadelphia, on ballast-heaps, *I. C. Martindale*.
93. DESCHAMPSIA FLEXUOSA (Linn.) Griseb.—Not frequent. On rocky banks and cliffs.—Lackawanna (Dudley and Thurston's Cat.); Monroe, *Knipe*; Lancaster; Franklin.
94. DESCHAMPSIA CÆSPITOSA (Linn.) Beauv.—Very rare and local.—Chester (Fl. Cestrica); Lancaster; Monroe, *Traill Green*.
95. HOLCUS LANATUS, Linn.—Nat. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Lancaster.
96. TRisetum PENNSYLVANICUM (Linn.) B. S. P.—In swamps. Sparingly throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Dauphin; Lancaster; Lycoming, *McMinn*.
97. AVENA STRIATA, Michx.—Very rare. A northern species.—Sullivan, *Aubrey H. Smith*, *Chas. E. Smith*; Elk, *McMinn*.
98. ARRHENATHERUM ELATIUS (Linn.) Mert. and Koch.—Adv. from Eu. Rare. Found occasionally along roadsides and in woods.—Chester (Fl. Cestrica); Lancaster, *Small*; Northampton.

99. *DANTHONIA SPICATA* (Linn.) Beauv.—Very common throughout. In open woods and on dry hillsides.—Delaware (Smith's Cat.); Chester (Fl. Cestricea); Bucks (Moyer's Cat.); Monroe; Lycoming, *McMinn*.
100. *DANTHONIA COMPRESSA*, Austin.—Rare. A mountain species.—Monroe, *Britton*; Berks; *Crawford*; Lackawanna; Lycoming, *McMinn*.
101. *DANTHONIA SERICEA*, Nutt.—Lycoming, *McMinn*. "On dry slate hills." Very rare.
102. *CAPRIOLA DACTYLON* (L.) Kuntze. (*Cynodon Dactylon*, Pers.).—Introduced from Europe and spreading from ballast-heaps.—Philadelphia, *Diffenbaugh*; Bucks, at Bristol, *Diffenbaugh*; Bethlehem, *Bechdolt*.—Abundant in the South.
103. *BOUTELOUA CURTIPENDULA* (Michx.) A. Gray.—Rare.—Chester (Fl. Cestricea); Northampton; Lancaster; Huntingdon, *Lowrie*.
104. *ELEUSINE INDICA* (Linn.) Gært.—Nat. from India. Very common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestricea); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Huntingdon, *Lowrie*.
105. *ELEUSINE ÆGYPTIACA* (Willd.) Pers.—Adv. from Eu.—Delaware, "established at some places and spreading," *Dr. G. Smith*; Philadelphia, *Diffenbaugh*.—Spreading from ballast-heaps.
106. *SIEGLINGIA FLAVA* (L.) Kuntze. (*Triodia sesleroides*, Benth.).—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestricea); Bucks (Moyer's Cat.); Lancaster; Northampton; Luzerne (Dudley and Thurston's Cat.); Huntingdon.
107. *TRIPLASIS PURPUREA* (Walt.) Beauv.—Erie, on Presque Isle, *Garber*.—A coast-plant. The only station known in Pennsylvania.
108. *PHRAGMITES VULGARIS* (Lam.) B. S. P.—Rare and local.—Delaware, *Dr. G. Smith*; Chester (Fl. Cestricea); Erie, on Presque Isle, *Garber*.
109. *KÆLERIA CRISTATA*, Pers.—Very rare.—Found only on Campbell's Ledge, on the Susquehanna river above Moeanaqua (Dudley and Thurston's Cat.), *Dudley*.
110. *EATONIA PENNSYLVANICA* (Spreng.) A. Gray.—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestricea); Bucks, *H. F. Ruth*; Northampton; Lancaster; Tioga, *Garber*.

111. *EATONIA OBTUSATA* (Michx.) A. Gray.—Rare and local.—Chester (Fl. Cestrica); Lancaster.
112. *EATONIA DUDLEYI*, Vasey.—Rather frequent in the central mountain-region.—Lancaster; Lehigh, *Garber*; Monroe, *Britton*; Huntingdon, *Lowrie*.
113. *ERAGROSTIS HYPNOIDES* (Lam.) B. S. P.—Common along sandy river-shores.—Franklin; Lancaster; Bucks, *H. F. Ruth*; Tioga, *Garber*; Huntingdon, *Lowrie*; Northampton.
- ERAGROSTIS MINOR*, Host.—Adv. from Eu. Rare.—Franklin, *Traill Green*; Bucks.
114. *ERAGROSTIS MAJOR*, Host.—Nat. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Philadelphia, *Diffenbaugh*; Lancaster; Franklin; Huntingdon, *Lowrie*.
115. *ERAGROSTIS PILOSA* (Linn.) Beauv.—Nat. from Europe. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Monroe, *Knipe*; Lancaster; Franklin, *Traill Green*; Fayette, *Garber*.
116. *ERAGROSTIS PURSHII*, Schrad. Frequent in the eastern counties. On sandy river-banks.—Northampton; Dauphin; Lancaster, *Heller*.
117. *ERAGROSTIS FRANKII*, Meyer.—Rare and local.—Chester, *Canby*; Lancaster; Monroe, *Knipe*; Northampton.
118. *ERAGROSTIS CAPILLARIS* (Linn.) Nees.—Frequent throughout.—Chester (Fl. Cestrica); Delaware (Smith's Cat.); Northampton; Lancaster; Huntingdon, *Lowrie*, *Boecking*.
- ERAGROSTIS PECTINACEA* (Michx.) A. Gray.—Rare. Bucks, *I. C. Martindale*.
119. *ERAGROSTIS PECTINACEA* (Michx.) A. Gray, var. *SPECTABILIS*, A. Gray. Frequent in the eastern counties.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Philadelphia, *James*; Lancaster.
120. *MELICA MUTICA*, Willd.—Berks, near Reading, *Dr. J. P. Hiester*; Lancaster, at Safe Harbor.—Very rare and local.
121. *UNIOLA LATIFOLIA*, Michx.—Rare and local.—Lancaster, shores of the Susquehanna, *Diffenbaugh*, *Heller*.
122. *UNIOLA LAXA* (Linn.) B. S. P.—Very rare and local.—Delaware, at Tinicum, *Chas. E. Smith*; Bedford, *Aubrey H. Smith*.

123. *DISTICHLIS SPICATA* (Linn.) Greene.—Philadelphia, *Parker*.—From the ballast-heaps. Common on the sea-coast of New Jersey.
124. *DACTYLIS GLOMERATA*, Linn.—Nat. from Eu. Escaped from culture and common throughout.—Northampton.  
*BRIZA MAXIMA*, Linn.?—Lancaster, on the roadside near Smithville, *Small*.—Fug. from Eu.
125. *FESTUCA MYURUS*, Linn.—Nat. from Eu.—Bucks, near Quakertown, *Dr. J. B. Brinton*—the only station known in Pennsylvania. Common in Southern New Jersey.
126. *POA ANNUA*, Linn.—Nat. from Eu. Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Lancaster; Huntingdon, *Lowrie*; Blair, *Boecking*.
127. *POA COMPRESSA*, Linn.—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Lancaster; Franklin; Allegheny, *Knipe*.
128. *POA SEROTINA*, Ehrh.—Rare and local.—Tioga, *Garber*; Crawford, *McMinn*.
129. *POA PRATENSIS*, Linn.—Nat. From Eu. Very common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Northampton; Lancaster; Franklin; Blair, *Boecking*; Erie, *Garber*.
130. *POA TRIVIALIS*, Linn.—Nat. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Philadelphia, *James*; Northampton; Lancaster; Centre, *Boecking*; Clinton, *McMinn*.
131. *POA SYLVESTRIS*, Gray.—Rare and local.—Bucks, *Garber*; Wayne, *Garber*; Chester, at Valley Forge, *Diffenbaugh*; Lancaster.
132. *POA DEBILIS*, Torr.—Very rare.—Monroe, *Brinton*, at Naomi Pines, the only known station.
133. *POA ALSODES*, Gray.—Very rare.—Sullivan, on the Loyalsock, *Chas. E. Smith*.
134. *POA FLEXUOSA*, Muhl.—Rare and local.—Sullivan, on the Loyalsock, *Chas. E. Smith*; Lackawanna, near Moscow, *Thurston*; Lancaster, Bart and Martic Townships.

135. *POA BREVIFOLIA*, Muhl.—Not common. On rocky river-banks. Flowers early.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks, *H. F. Ruth*; Philadelphia, *Diffenbaugh*; Northampton; Lancaster; Huntingdon.
136. *PANICULARIA CANADENSIS* (Michx.) Kuntze. (*Glyceria Canadensis*, Trin.).—Frequent in the swamps of the mountain-regions.—Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Lancaster; Schuylkill; Monroe; Centre.
137. *PANICULARIA OBTUSA* (Nutt.) Kuntze.—Rare and local.—Clearfield, *McMinn*; Monroe, near Tobyhanna Mills.
138. *PANICULARIA ELONGATA* (Torr.) Kuntze.—Frequent along the mountain-streams of the Alleghenies.—Bucks (Moyer's Cat.); Carbon; Monroe; Franklin; Tioga, *Garber*; Cameron.
139. *PANICULARIA NERVATA* (Willd.) Kuntze.—Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne (Dudley and Thurston's Cat.); Monroe; Lancaster; Tioga, *Garber*; Huntingdon, *Lowrie*.
140. *PANICULARIA PALLIDA* (Eddy) Kuntze.—Rare and local.—Philadelphia, *Dr. Jos. Leidy*; Bucks, *Fretz*; Monroe; Wayne, *Garber*.
141. *PANICULARIA AMERICANA* (Torr.) MacMillan.—(*Glyceria arundinacea*, Kunth).—Not common.—Lancaster, Bart township; Bucks, *H. F. Ruth*; Northampton; Monroe; Tioga, *Garber*; Huntingdon, *Lowrie*; Clarion, *Garber*.
143. *PANICULARIA FLUITANS* (Linn.) Kuntze.—Frequent in shallow waters throughout the State.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Franklin; Lancaster; Northampton; Huntingdon.
144. *PANICULARIA BREVIFOLIA* (Muhl.). (*Glyceria acutiflora*, Torr.) Very rare and local.—Bucks (Moyer's Cat.); Huntingdon.
145. *PUCCINELLIA DISTANS* (Linn.) Parl.—Philadelphia, *Diffenbaugh*. A species of the sea-coast, introduced and spreading from the heaps of ballast.
145. *FESTUCA OCTOFLORA*, Walt. (*F. tenella*, Willd.).—Not common. In dry soils.—Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Huntingdon, *Lowrie*; Erie, *Garber*.
146. *FESTUCA DURIUSCULA*, Linn.—Nat. from Eu. Rare.—Bucks

- (Moyer's Cat.); Northampton, *Fiot, Garber*; Chester, *Burk*; Erie, *Garber*.
147. *FESTUCA ELATIOR*, Linn.—Nat. from Eu. Common throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Franklin; Northampton; Lancaster; Huntingdon, *Lowrie*; Blair, *Boecking*.
148. *FESTUCA NUTANS*, Spreng.—Frequent throughout. In rocky woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Huntingdon, *Lowrie*; Venango, *Garber*.
149. *BROMUS SECALINUS*, Linn.—Adv. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Luzerne and Lackawanna (Dudley and Thurston's Cat.); Northampton; Lancaster; Franklin; Huntingdon, *Lowrie*.
150. *BROMUS RACEMOSUS*, Linn.—Adv. from Eu. Common throughout.—Bucks (Moyer's Cat.); Philadelphia; Lancaster; Northampton.
151. *BROMUS MOLLIS*, Linn.—Fug. from Eu. Very rare.—Chester, *Canby*.
152. *BROMUS KALMI*, Gray.—Rare.—Northampton; Bucks, *Fretz*; Lancaster, *Small*; Huntingdon, *Lowrie*; Venango, *Garber*.
153. *BROMUS CILIATUS*, Linn.—Common throughout. In rocky woods.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia, *I. C. Martindale*; Northampton; Lancaster.
154. *BROMUS PURGANS*, Linn.—Frequent throughout. On banks of streams. Flowers much later than *B. ciliatus*.—Northampton; Huntingdon, *Lowrie*.
155. *BROMUS STERILIS*, Linn.—Adv. from Eu. Not common.—Philadelphia, *Canby, Chas. E. Smith*; Northampton, at Easton.
156. *BROMUS TECTORUM*, Linn.—Adv. from Europe.—Rare.—Northampton, streets of Easton.
157. *LOLIUM PERENNE*, Linn.—Nat. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia, *Chas. E. Smith*; Bucks (Moyer's Cat.); Northampton; Lancaster; Franklin.
158. *LOLIUM TEMULENTUM*, Linn.—Adv. from Eu. Very rare.—Philadelphia, *Chas. E. Smith*; Northampton, near Easton.

159. *AGROPYRUM REPENS* (Linn.) Beauv.—Nat. from Eu. Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Philadelphia; Northampton; Lancaster.
- AGROPYRUM VIOLACEUM* (Hörn.) Lange.—Rare and local.—Huntingdon, in the barrens near Birmingham, *Miss Davis*; Venango, *Garber*.
160. *AGROPYRUM CANINUM* (Linn.) Rœm. and Sch.).—Very rare and local.—Monroe, near Pocono Summit.
161. *HORDEUM JUBATUM*, Linn.—Fug. from Eu.—Berks, *Oberly*; Philadelphia, *Diffenbaugh*.
162. *ELYMUS VIRGINICUS*, Linn.—Frequent throughout.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia (Barton's Fl.); Bucks (Moyer's Fl.); Northampton; Lancaster; Franklin; Blair, *Lowrie*.
163. *ELYMUS CANADENSIS*, Linn.—Common throughout. On riverbanks.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Philadelphia (Barton's Fl.); Bucks (Moyer's Cat.); Northampton; Lancaster; Bedford, *Small*.
164. *ELYMUS CANADENSIS*, Linn., var. *GLAUCIFOLIUS*, A. Gray. Frequent on rocky banks and cliffs along rivers.—Northampton; Dauphin.
165. *ELYMUS STRIATUS*, Willd.—Frequent along the banks of streams.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Northampton; Franklin; Huntingdon.
166. *HYSTRIX PATULA*, Moench. (*Asprella Hystrix*, Willd.). Frequent throughout the State.—Delaware (Smith's Cat.); Chester (Fl. Cestrica); Bucks (Moyer's Cat.); Northampton; Lancaster; Franklin; Luzerne, *Heller*; Huntingdon, *Lowrie*.

### *Solidago humilis*, Pursh, of the Eastern States, and its Allies.

(PLATES CLIII.—CLV.)

*Solidago Virgaurea*, L. has long been regarded as native in the higher latitudes of North America, and appears as such in the Flora of Torrey and Gray. In the 5th edition of his Manual, which covers less territory, Dr. Gray admits the species, but restricts it to two varieties, *alpina*, Bigelow, and *humilis* (Pursh).